

REMARKS

Claims 1-22 and 29-36 are currently pending in the application. By this amendment, claims 1, 7, 9, 10, 12, 14-16, 19, 20, 22, 29, 31, 34 and 35 are amended to overcome the objections and rejections to the claims, and to correct minor informalities. With regard to at least claims 7, 9, 10, 12, 14-16, 19, 20, 22, 29, 31, 34 and 35, the claim amendments are not narrowing amendments, and are not made for reasons of patentability in view of any prior art rejections. No new matter is added. Reconsideration of the rejected and objected claims in view of the above amendments and the following remarks is respectfully requested.

Present Amendment is proper for entry

Applicants respectfully submit that the instant amendment is proper for entry after final rejection. Applicants note that no question of new matter is presented nor are any new issues raised in entering the instant amendment of the claims and that no new search would be required. Moreover, Applicants submit that the instant amendment places the application in condition for allowance, or at least in better form for appeal. Accordingly, Applicants request the Examiner to enter the instant amendment, consider the merits of the same, and indicate the allowability of the present application and each of the pending claims.

Applicants note, in particular, the claims have been amended in an effort to resolve the formal claim objections and rejections. Moreover, as the Examiner did not reject claims 14 and 29-31 on the basis of prior art, Applicants have presented claims

14 and 29 in independent form and expect that these claims will be indicated to contain allowable subject matter.

Interview with Examiner Hanley on July 28, 2005

Applicants appreciate the courtesy extended by Examiner Hanley in the Interview of July 28, 2005. In the Interview, Applicants' representative pointed out, among other things, that none of the applied documents disclose or suggest a rod-like projection projectedly formed on the holder portion. It was specifically pointed out that the pin 47 in NAKANE is merely a mold pin that is used in make the device in NAKANE and that NAKANE is entirely silent with regard to a rod-like projection projectedly formed on the holder portion. Applicants noted that independent claim 1, in an effort to advance prosecution, would be amended to recite this feature, but that this feature was already recited in independent claims 10 and 19. Applicants' representative also pointed out a number of features lacking in the applied documents such as the recited holder portion and the recited resin sealed portion. In response, the Examiner indicated that he would evaluate Applicants' amendment after the filing of the same in view of the arguments presented in the Interview.

Allowable Subject Matter

Applicants note that while the Examiner rejected claim 14 and objected to claims 29-31 for formal matters, the Examiner did not reject claims 14 and 29-31 on the basis of any prior art rejection. Accordingly, even though the Examiner did not specifically

such in the Final Office Action, Applicants assume that these claims contain allowable subject matter. Therefore, Applicants have presented claims 14 and 29 in independent form and expect that these claims will be indicated to contain allowable subject matter in the next Official communication.

Objection to Claims

Claims 1-9 and 29-34 were objected to on the basis of a number of asserted informalities.

Applicants have amended the claims consistent with many of the Examiner's comments and are herein addressing the asserted informalities as follows:

The Examiner asserts that there is an inconsistency in the language of claim 1 between the language indicating that the lead is connected to the terminal portion and the language indicating the proximity of these features. Applicants respectfully disagree. While the Examiner is correct that claim 1 recites the "connected to" language with respect to the lead and the terminal portion, it is not accurate to say that claim 1 also inconsistently recites that these features are in proximity to each other. The actual language in claim 1 specifically recites "the lead of the detection element is in proximity to a predetermined location of the terminal portion when the detection element and the terminal portion are fitted in the detection element fitting portion and the terminal portion fitting portion, respectively" (emphasis added). Applicants also respectfully disagree with the Examiner's assertion that the term "connected to" *per se* requires "actual contact". The "connected to" feature, while clearly not precluding actual

contact, broadly indicates that the lead and the terminal portion are connected to each other in some way, e.g., electrically and/or mechanically. The “proximity to” feature, on the other hand, defines this connection as being in proximity to a predetermined location. Such features are not inconsistent with each other because “connected to” does not require a direct contact connection between two parts as suggested by the Examiner. For example, two wires can be electrically connected to each other without contacting each other using, e.g., terminals or even solder, arranged between the ends of the wires. In this example, the wires can be electrically connected to each other (i.e., via the terminals or the solder) and the ends of the wires are also in proximity to each other without touching each other. Thus, properly interpreted, such language is not inconsistent.

The Examiner also asserts that claims 7, 16 and 20 recite the same feature as recited in the claim from which it depends. Although Applicants respectfully disagree, Applicants have nevertheless, in an effort to advance prosecution, amended claims 7, 16 and 20 to more clearly define how the terminal portion is fitted into the holder portion. In particular, Applicants have further defined this as an end of the terminal portion fitted into a terminal portion fitting portion of the holder portion.

Accordingly, Applicants respectfully request reconsideration and withdrawn of the instant claim objection in view of the above-noted arguments and claim amendments.

35 USC § 112, Second Paragraph, Rejection

Claims 10-22, 35 and 36 were rejected under 35 USC § 112, second paragraph, as being indefinite on the basis of a number of asserted informalities.

Applicants have amended the claims consistent with many of the Examiner's comments and are herein addressing the asserted informalities as follows:

The Examiner asserts that the language "floating fashion" renders claims 10 and 19 unclear. Applicants respectfully disagree. Applicants note that the instant specification clearly describes what this language means with regard to the rod-like projection. For example, page 24, lines 16-25 and clearly describes how the projection 12 supports the holder portion 40 in a floating fashion. Moreover, there is nothing unclear about the use of such function language to describe how the holder portion is supported by the projection 12 and how it is arranged in a floating fashion within the resin sealed portion.

The Examiner asserts that the language "flange portion" renders claim 14 unclear. Applicants respectfully disagree. Applicants note that Fig. 5A of the instant application clearly shows a rod-like projection 12 that includes a flange portion 12a formed on an outer end thereof. One having ordinary skill in the art would have no difficulty understanding which part of projection 12 has a flange portion formed on an outer end thereof. It is clear from Fig. 5A that end 12a of the projection 12 is both formed on an outer end of the projection 12 and constitutes a flanged portion, and the Examiner has not demonstrated otherwise.

The Examiner asserts that the language “front surface” renders claim 15 unclear. While Applicants respectfully disagree, Applicants have nevertheless, in an effort to advance prosecution, amended claim 15 to resolve this basis of rejection. Specifically, claim 15 has been amended to remove the term “front”.

Accordingly, Applicants respectfully request reconsideration and withdrawn of the instant claim rejection in view of the above-noted arguments and claim amendments.

35 USC § 112, Fourth Paragraph, Rejection

Claim 12 was rejected under 35 USC § 112, fourth paragraph, as not further limiting claim 11.

While Applicants respectfully disagree, Applicants have nevertheless, in an effort to advance prosecution, amended claim 12 to resolve this basis of rejection. Specifically, claim 12 has been amended to recite that the rod-like projection extends from a bottom surface of the holder portion. Applicants note that Fig. 5A clearly shows that the rod-like projection 12 extends from a bottom surface of the holder portion 40.

Accordingly, Applicants respectfully request reconsideration and withdrawn of the instant claim rejection in view of the above-noted arguments and claim amendments.

35 U.S.C. § 103 Rejection

Claims 1-13 and 15-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U. S. Patent No. 6,291,990 issued to NAKANE, *et al.* (“NAKANE”) in view of Applicants’ admissions. Claims 32-34 are rejected under 35 U.S.C. § 103(a) as

being unpatentable over NAKANE in view of Applicants' admissions and further in view of U. S. Patent No. 4,926,548 issued to HOPKINS, *et al.* ("HOPKINS"). These rejections are respectfully traversed.

The Examiner has asserted on pages 4 and 5 of the instant Office Action that NAKANE discloses, in addition to a number of recited features, a holder portion 6 and a rod-like projection 47. Moreover, while acknowledging that NAKANE lacks disclosure to welding a lead to the terminal portion, bending an end of the terminal portion, fitting the detection element in the holder portion, the recited shield plate, and a notch arranged in the terminal portion, the Examiner nevertheless asserts that the former features are obvious and that the notched terminal portion is taught by HOPKINS.

Applicants respectfully disagree and submit that no proper modification of NAKANE or combination of NAKANE with Applicants' admissions and/or HOPKINS discloses or suggests the combination of features recited in claims 1, 10 and 19.

More particularly, independent claims 1, 10 and 19 each recites, *inter alia*,

a resin sealed portion sealing the holder portion in a state that the detection element and the terminal portion are held in the holder portion and the electric wire is connected with the terminal portion.

Additionally, independent claim 1 further recites, *inter alia*,

a holder portion having a detection element fitting portion fitting the detection element therein and a terminal portion fitting portion fitting the terminal portion therein.

Also, independent claims 1, 10 and 19 further recite, *inter alia*,

a rod-like projection projectedly formed on the holder portion.

By way of background, Figs. 2-4 of the instant application clearly show a resin sealed portion 70 sealing the holder portion 40 in a state that the detection element 32 and the terminal portion 36 are held in the holder portion 40 and the electric wire 38 is connected with (i.e., via portion 33) the terminal portion 36. Figs. 4 and 5A also show that the holder portion 40 has a detection element fitting portion 48 fitting the detection element 32 therein and a terminal portion fitting portion 54 fitting the terminal portion 36 therein (i.e., fitting end 37 of the terminal portion 36 therein). Finally, Fig. 5A clearly shows a rod-like projection 12 projectedly formed on the holder portion 40. As the Examiner will note from Fig. 2, the rod-like projection formed on the holder portion 40 functions as a support member for the holder portion 40 and the detection element 32.

Consistent with the arguments presented during the above-noted Interview, Applicants submit that no proper combination of NAKANE, Applicants' admissions, and HOPKINS discloses or even suggests at least the above-noted features.

Applicants acknowledge, for example, the Examiner's assertion that the resin holder 5 in NAKANE constitutes a resin sealed portion. Such an interpretation does not appear unreasonable given the fact that the resin portion 5 functions to hold the circuit board 6 and a terminal 4. However, the Examiner also cannot escape the fact that NAKANE merely discloses that the resin portion 5 only covers one side of the circuit board 6 (see Fig. 1B). NAKANE, however, does not disclose or suggest that the resin sealed portion 5 "seals the holder portion in a state that the detection element and the terminal portion are held in the holder portion and the electric wire is connected with the terminal portion" (emphasis added). Although it may be argued that Figs. 1B and 5A

show an end portion of the terminal portion (i.e., terminal 4) extending into and through the holder portion (i.e., the circuit board 6), it is clear that the element 2 is not held in the circuit board 6. Indeed, NAKANE merely discloses that the element 2 can be soldered to an outer surface of the circuit board 6 (see col. 6, lines 4-11). Nor has the Examiner identified any disclosure in any applied document which suggests that it would have been obvious to redesign the circuit board 6 in order to receive therein a portion of the element 2.

Applicants also acknowledge, for example, the Examiner's assertion that the circuit board 6 in NAKANE constitutes a holder portion. Such an interpretation is not entirely unreasonable given the fact that the circuit board 6 functions to hold a Hall element 2 (i.e., the asserted detection element). However, as noted above, the Examiner cannot escape the fact that NAKANE only discloses that the element 2 is soldered to the board 6 (see col. 6, lines 4-11). NAKANE does not, however, disclose or suggest that the element 2 can be fitted in any part of the board 6 (i.e., the asserted holder portion). As noted above, claims 1, 10 and 19 specifically recite "a holder portion having a detection element fitting portion fitting the detection element therein and a terminal portion fitting portion fitting the terminal portion therein" (emphasis added). In contrast, Fig. 1B of NAKANE clearly shows that the element 2 is mounted to an outer surface of the board 6 and contains no portion which is arranged in the board 6. Nor is the Examiner correct that it would have been obvious to arranged the element 2 in a portion of the board 6. Chips are typically connected to exposed contacts of an outer surface of a circuit board and are not typically arranged within a circuit board.

Applicants further acknowledge, for example, the Examiner's assertion that the mold pin 47 in NAKANE constitutes a rod-like projection. Such an interpretation, however reasonable in the abstract, mischaracterizes the rod-like projection recited in claims 10 and 19, as well as now amended claim 1. Claims 1, 10 and 19 clearly recite that the rod-like projection is projectedly formed on the holder portion. Since the Examiner has identified the circuit board 6 in NAKANE as the recited holder portion, and since the mold pin 47 is used to secure a magnet 3 (and not the circuit board 6) during molding (see Figs. 12 and 13), Applicants fail to understand how NAKANE can properly be interpreted to disclose or suggest that the rod-like projection is projectedly formed on the holder portion. Clearly, the mold pin 47 is not formed on any device which will make up the sensor 1. Nor can it be said that the mold pin 47 is projectedly formed on the circuit board 6. Applicants further note that the term "formed" is defined in Webster's II New College Dictionary as "[t]o constitute or to be an element, part, or characteristic of." Clearly, as the mold pin 47 is separate, distinct and non connected in any way to the circuit board 6, it cannot properly be said to form part of a holder portion.

With regard to HOPKINS, Applicants do not dispute that Figs. 1-4 show that bending and slotting an end of a terminal so as to receive a wire end is conventional. However, the Examiner cannot escape the fact that the claims do merely recite this feature. The claims asserted to be obvious over the combination of this document with that of NAKANE depend from claims, i.e., claim 1, which recites, among other things, a holder portion having a detection element fitting portion fitting the detection element therein and a terminal portion fitting portion fitting the terminal portion therein and a

resin sealed portion sealing the holder portion in a state that the detection element and the terminal portion are held in the holder portion and the electric wire is connected with the terminal portion. These features, in addition to being missing from NAKANE as explained above, are also missing from HOPKINS. Indeed, HOPKINS relates to a method of terminating a wire with a terminal and is entirely silent with regard to a wheel sensor, much less, one which includes, among other things, a detection element and a holder portion.

Finally, while the Examiner has asserted that Applicants' admissions render certain features which are not disclosed in NAKANE obvious, the Examiner has neglected to specify which features of the claims Applicants have admitted to be conventional. Applicants submit that contrary to the Examiner's assertions, Applicants have not admitted that certain features not taught by NAKANE are conventional. To the contrary, while Applicants have identified certain conventional features in the instant application (see generally Figs. 11-13 and the "Background of the Invention" section of the specification), Applicants have never indicated that it would be *per se* obvious to combine any conventional features with the device disclosed in NAKANE and/or HOPKINS.

Accordingly, Applicants submit that any asserted admission made by Applicants alone or in combination with any asserted teachings of HOPKINS fails to cure the deficiencies of NAKANE. Furthermore, Applicants also submit that the dependent claims are distinguishable over the applied documents:

Claims 2-9, 11-13, 15-18 and 20-22 are allowable over the cited references based on their dependencies from an allowable base claim.

In particular, Applicants submit that no proper combination of the above-noted documents discloses or suggests:

- (i) that the lead of the detection element and the predetermined location of the terminal portion are connected to each other by welding (claim 2).
- (ii) that a bent portion is formed in the predetermined location of the terminal portion (claim 3).
- (iii) that the detection element is disposed on an end portion of the holder portion (claim 4).
- (iv) that the holder portion further comprises an accommodating groove accommodating the lead of the detection element, the terminal portion fitting portion being formed below the accommodating groove (claim 5).
- (v) that the terminal portion fitting portion comprises a plurality of terminal portion fitting portions, and that the holder portion includes a shielding plate formed between the adjacent terminal portion fitting portions (claim 6).
- (vi) that the terminal portion is made of a metal, wherein the terminal portion includes a holding portion formed in the vicinity to a location of the terminal to which the electric wire is welded, for holding the electric wire in a bundled state, and an end of the terminal portion is fitted into the terminal portion fitting portion of the holder portion (claim 7).
- (vii) that the holding portion is a notch holding the electric wire therein (claim 8).
- (viii) that the terminal portion is formed into a substantially flat plate with at least one bend portion, and that the terminal portion comprises a weld portion to which the electric wire is welded and a holding piece which is bent from the weld portion at a position where a distal end of the electric wire is located when the electric wire is welded to the weld portion, and wherein the holding portion is formed in the holding piece (claim 9).
- (ix) that the rod-like projection has a polygonal cross section (claim 11).

- (x) that the rod-like projection extends from a bottom surface of the holder portion (claim 12).
- (xi) that the detection element is disposed on an end portion of the holder portion (claim 13).
- (xii) that a surface of the resin sealed portion around the rod-like projection is formed in a concave surface (claim 15).
- (xiii) that the terminal portion is made of a metal, wherein the terminal portion includes a holding portion formed in the vicinity to a location of the terminal to which the electric wire is welded, for holding the electric wire in a bundled state, and an end of the terminal portion is fitted into a terminal fitting portion of the holder portion (claim 16).
- (xiv) that the holding portion is a notch holding the electric wire therein (claim 17).
- (xv) that the terminal portion is formed into a substantially flat plate with at least one bend portion, and that the terminal portion comprises a weld portion to which electric wire is welded and a holding piece which is bent from the weld portion at a position where a distal end of the electric wire is located when the electric wire is welded to the weld portion, and that the holding portion is formed in the holding piece (claim 18).
- (xvi) that the terminal portion is made of a metal, wherein the terminal portion includes a holding portion formed in the vicinity to a location of the terminal to which the electric wire is welded, for holding the electric wire in a bundled state, and an end of the terminal portion is fitted into a terminal fitting portion of the holder portion (claim 20).
- (xvii) that the holding portion is a notch holding the electric wire therein (claim 21).
- (xviii) that the terminal portion is formed into a substantially flat plate with at least one bend portion, and that the terminal portion comprises a weld portion to which the electric wire is welded and a holding piece which is bent from the weld portion at a position where a distal end of the electric wire is located when the electric wire is welded to the weld portion, and that the holding portion is formed in the holding piece (claim 22).

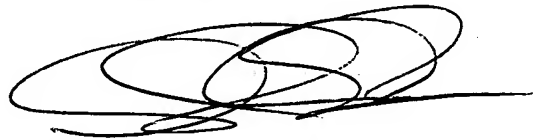
- (xix) that the lead makes contact with the bent portion of the terminal portion at the predetermined location (claim 32).
- (xx) that the terminal portion includes a notch having an opening end having a larger diameter portion and a weld portion end having a smaller diameter portion (claim 33).
- (xxi) that the notch is formed such that a diameter is reduced in a gradual or stepped fashion from a larger diameter portion at an open end toward a smaller diameter portion.

Accordingly, Applicants respectfully request reconsideration and withdrawn of the above-noted prior art rejections in view of the above-noted arguments.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the objections and rejections have been properly addressed. Applicants submit that the above amendments and remarks are responsive. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Respectfully submitted,
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